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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,134	01/16/2004	Syuji Nakai	011900-327	5027
21839	7590	08/23/2006	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			MCNELIS, KATHLEEN A	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/758,134

Applicant(s)

NAKAI ET AL.

Examiner

Kathleen A. McNelis

Art Unit

1742

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 August 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

Continuation of 11. does NOT place the application in condition for allowance because: Applicants' arguments are summarized as follows:

1. Claim 27 recites an ultra-low carbon sheet steel where Ti is included in an amount of 0.002 to 0.10%. JP '640 does not list Ti as an alloying element.
  - a. ASM Metals Handbook is cited as disclosure of adding Ti to steels as a deoxidizer and to limit grain growth. However, the Metals Handbook 9th Edition page 20-1 states that magnetically soft materials. Further, adding enough Ti to act as a deoxidizer would have the effect of limiting grain growth, which is not desired in JP '640.
  - b. JP '031 is cited as adding Ti to react with C, N and S to improve workability. However, adding an amount of Ti sufficient to react with C, N and S to improve workability would limit grain growth, which is not desired in JP '640 as discussed above regarding the ASM Metals Handbook.

Examiner's responses are as follows:

1. With respect to the addition of titanium:
  - a. The attachment cited by applicant (ASM Handbook, 20-1, date not provided) discloses that impurities, including oxygen, are especially deleterious to magnetically soft materials, implying to one of ordinary skill in the art that deoxidization is required. The reference further states for most applications, grain size should be as large as possible for nonoriented materials. Examiner does not agree that this means one would necessarily forgo the use of titanium as a deoxidizer.

First, the wording in the reference provided by applicant is that for "most" applications (i.e. not all) a large grain size is required, therefore the reference does not provide evidence of an inherent requirement.

Second, the reference does not disclose that it is preferable to maximize grain size at the possible expense of higher impurity levels of oxygen, which is described as "especially deleterious".

Third, the reference is silent regarding the excess amount of Ti which would be required to decrease grain size. Applicants argue that adding enough Ti to deoxidize the steel would have a deleterious effect on grain size and therefore magnetic properties, however this argument does not take the place of evidence. Nor does examiner find sufficient evidence provided by the cited document.

Finally, examiner has provided a reference (ASM Handbook, Vol. 9, p. 537) that teaches that increasing the grain size of non-oriented silicon steels reduces core losses up to a critical grain size, but further grain growth produces no further improvement while reducing permeability. Further, a study is cited wherein the optimum grain size was found to vary with impurity contents and another is cited which shows optimum grain size to be vary with silicon content.

- b. Applicant's arguments that by adding a sufficient amount of Ti to react with C, N and S to improve workability would be deleterious to grain size and/or magnetic properties are not evidence. Lacking evidence, examiner does not agree that it would necessarily be so.

8/21/2006  
KAM

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